Figure 1

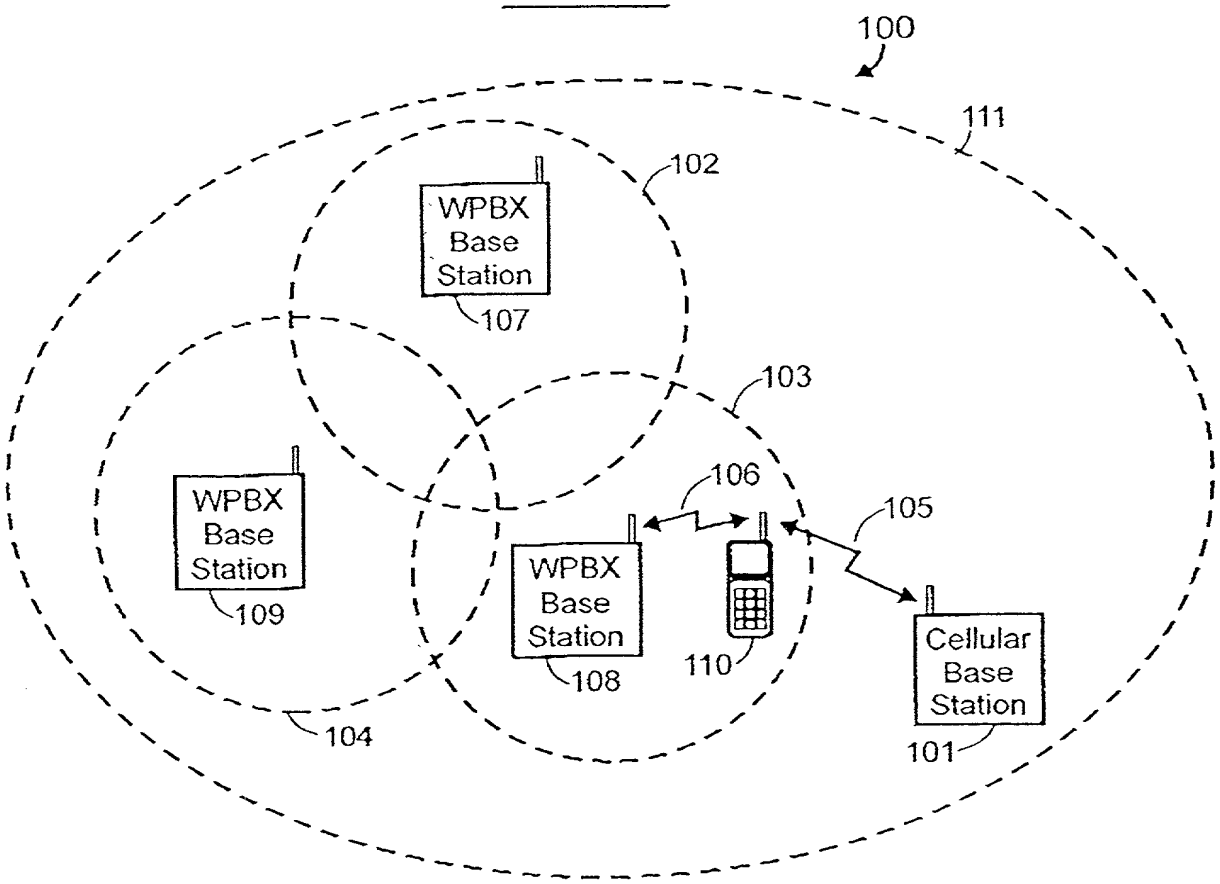



Figure 2

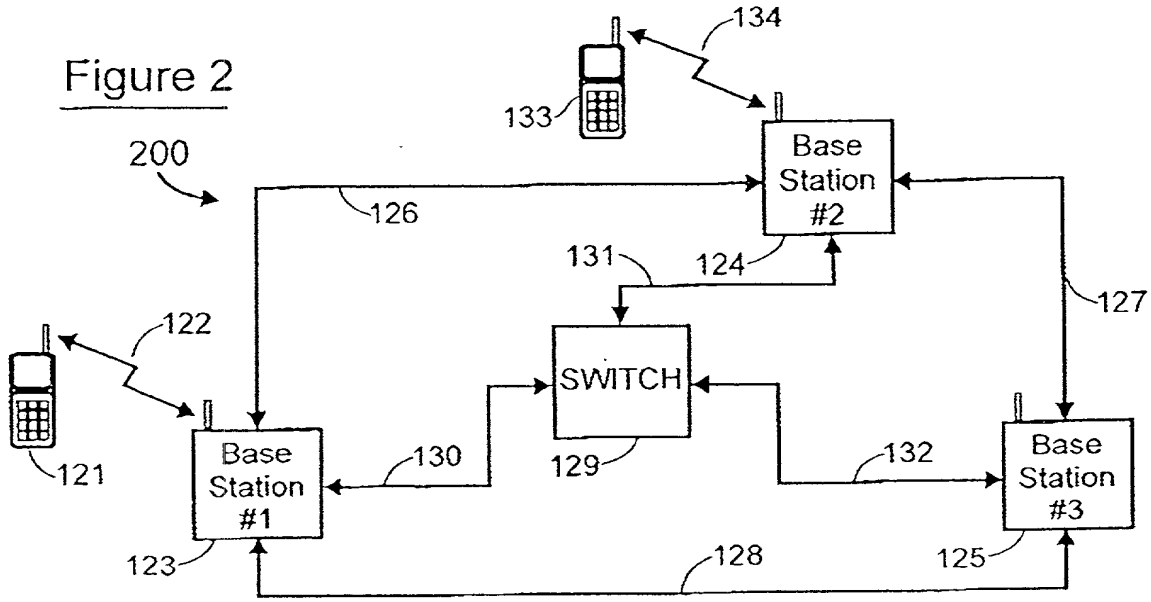


Figure 3A

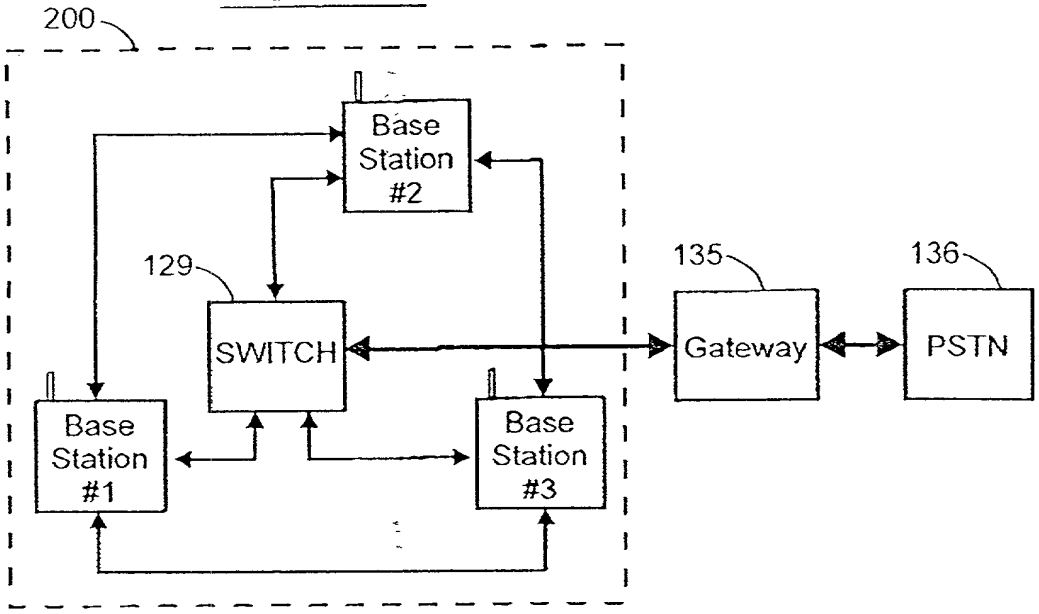



Figure 3B

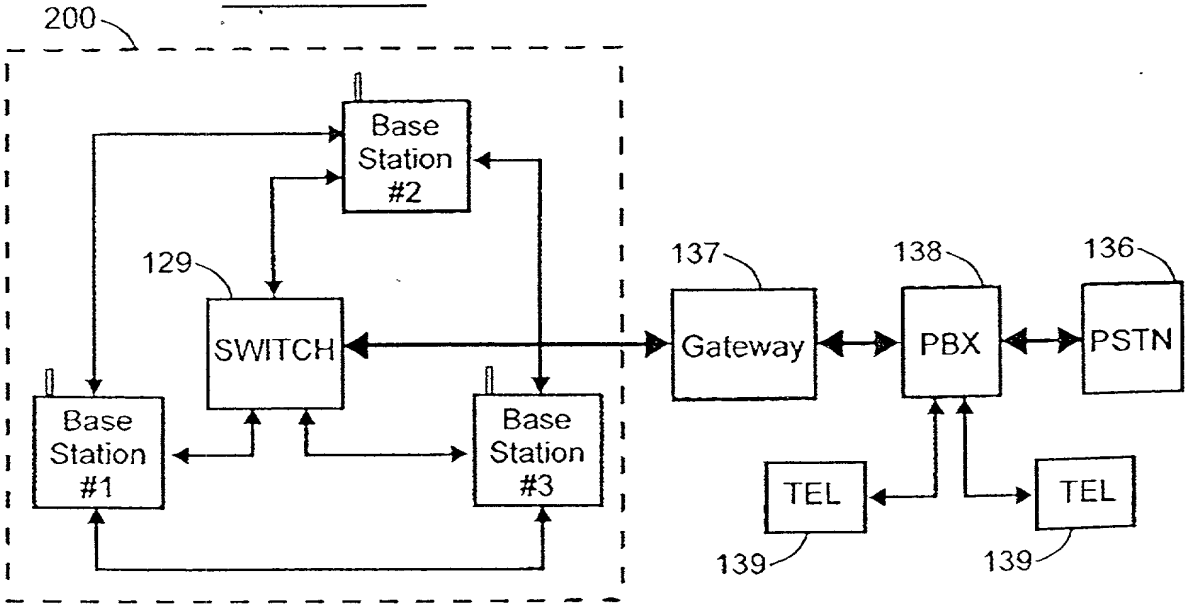


Figure 4

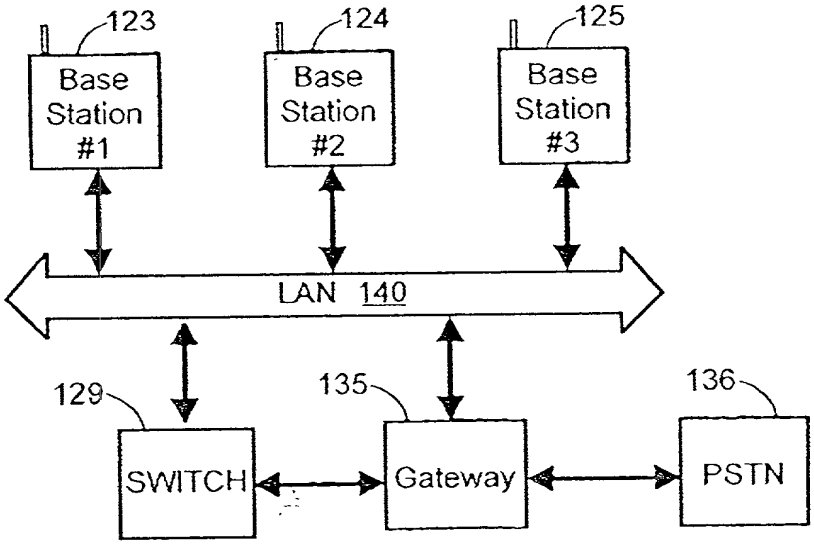



Figure 22

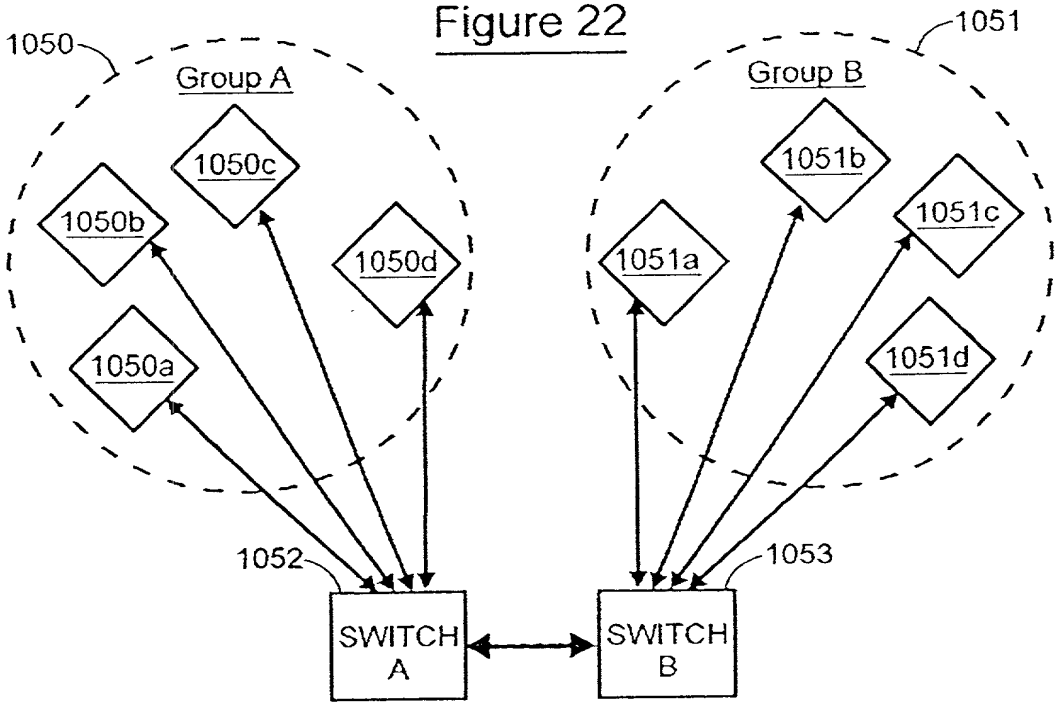
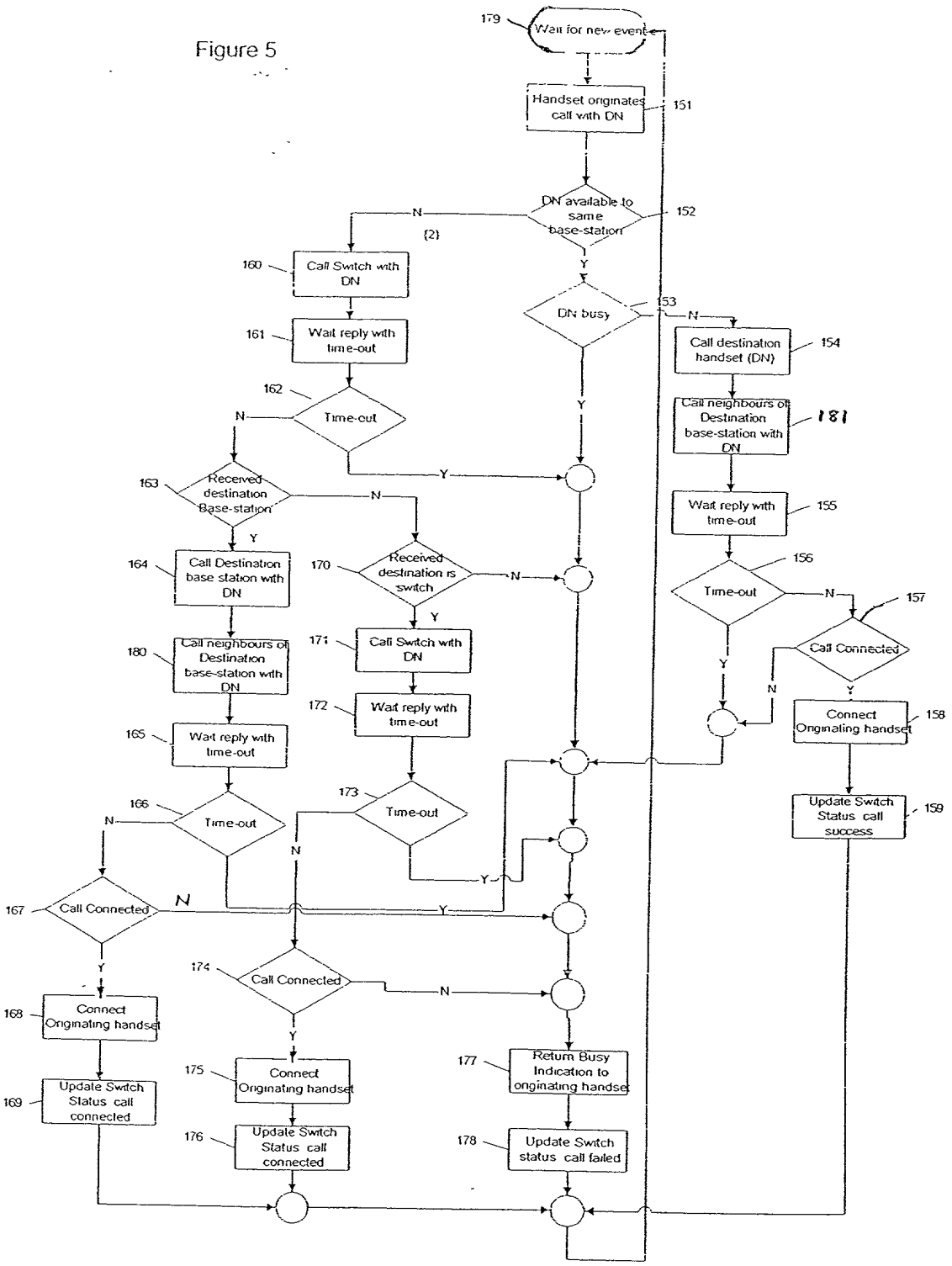


Figure 5


179
Wait for new event
Handset originates call with DN
151
DN available to same base-station
152
N
{2}
Y
160
Call Switch with DN
161
Wait reply with time-out
162
Time-out
N
Y
163
Received destination Base-station
N
Y
164
Call Destination base station with DN
180
Call neighbours of Destination base-station with DN
165
Wait reply with time-out
166
Time-out
N
167
Call Connected
N
Y
168
Connect Originating handset
169
Update Switch Status call connected
170
Received destination is switch
N
Y
171
Call Switch with DN
172
Wait reply with time-out
173
Time-out
N
Y
174
Call Connected
N
Y
175
Connect Originating handset
176
Update Switch Status call connected
DN busy
153
N
Y
177
Return Busy Indication to originating handset
178
Update Switch status call failed
Call destination handset (DN)
154
Call neighbours of Destination base-station with DN
181
Wait reply with time-out
155
156
Time-out
N
Y
157
Call Connected
Y
N
Connect Originating handset
158
Update Switch Status call success
159

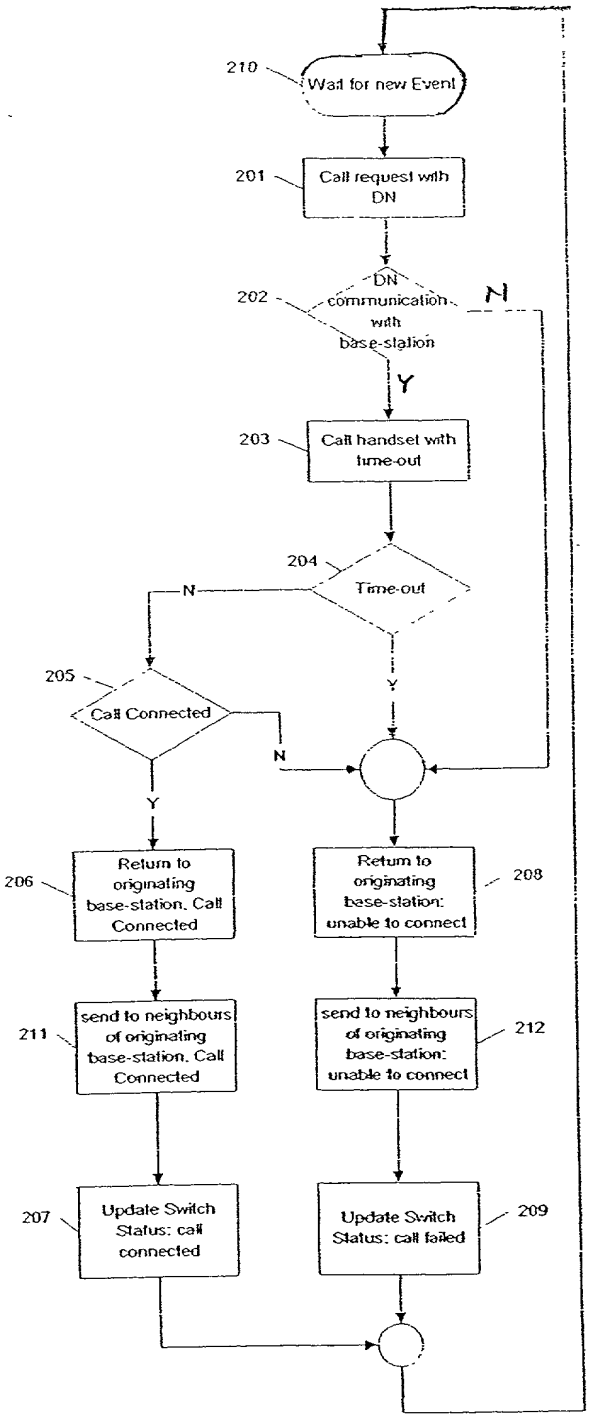

210
Wait for new Event
201
Call request with DN
202
DN communication with base-station
N
Y
203
Call handset with time-out
204
Time-out
N
Y
205
Call Connected
N
Y
206
Return to originating base-station. Call Connected
208
Return to originating base-station: unable to connect
211
send to neighbours of originating base-station. Call Connected
212
send to neighbours of originating base-station: unable to connect
207
Update Switch Status: call connected
209
Update Switch Status: call failed

Figure 6

Figure 7

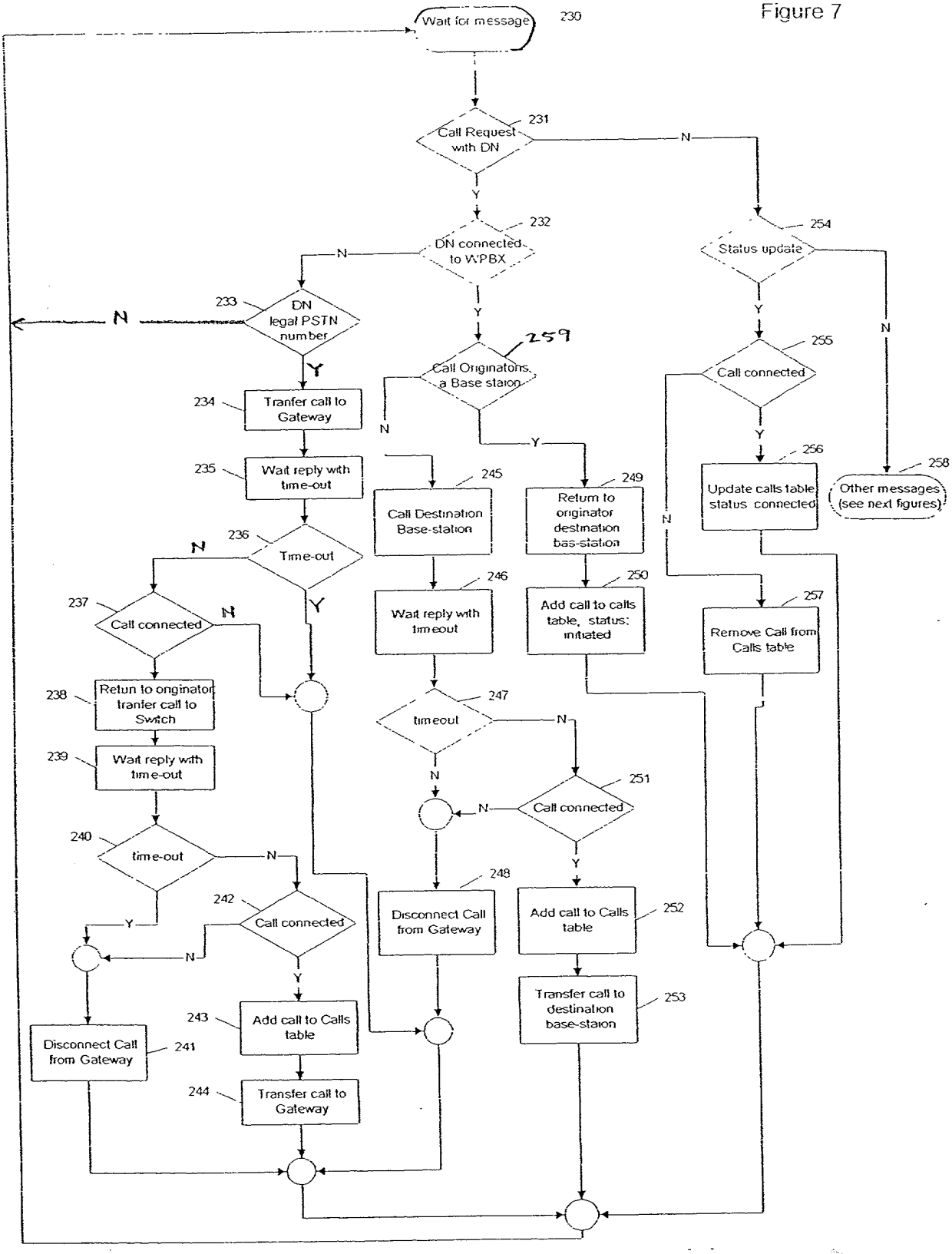

Wait for message
230
Call Request with DN
231
N
Y
DN connected to WPBX
232
N
Y
Status update
254
Y
N
DN legal PSTN number
233
N
Y
Call Originators a Base staion
259
Call connected
255
Y
N
Y
Tranfer call to Gateway
234
Update calls table status connected
256
Other messages (see next figures)
258
Wait reply with time-out
235
Call Destination Base-station
245
Return to originator destination bas-station
249
N
Time-out
236
N
Y
Wait reply with timeout
246
Add call to calls table, status: initiated
250
Remove Call from Calls table
257
Call connected
237
N
Y
Return to onginator tranfer call to Switch
238
Wait reply with time-out
239
timeout
247
N
N
Call connected
251
N
Y
time-out
240
N
Y
Disconnect Call from Gateway
248
Add call to Calls table
252
Call connected
242
N
Y
Transfer call to destination base-staion
253
Add call to Calls table
243
Disconnect Call from Gateway
241
Transfer call to Gateway
244

Figure 8A

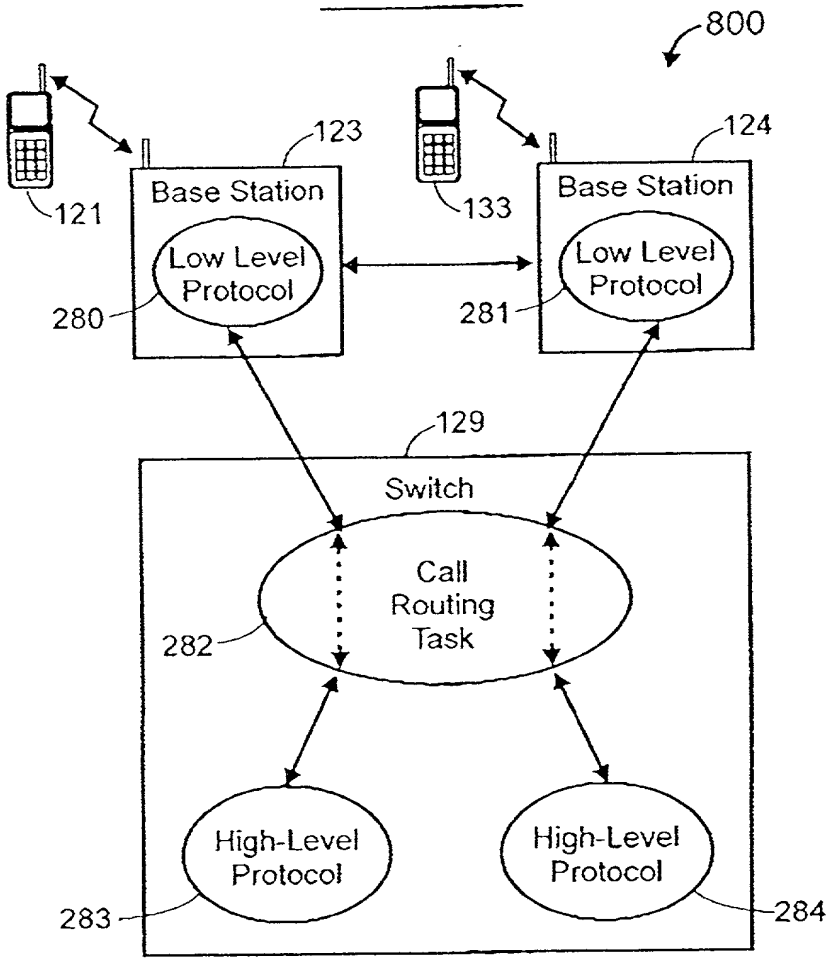

800
123
124
Base Station
Base Station
121
133
Low Level Protocol
Low Level Protocol
280
281
129
Switch
Call Routing Task
282
High-Level Protocol
High-Level Protocol
283
284

Figure 8B

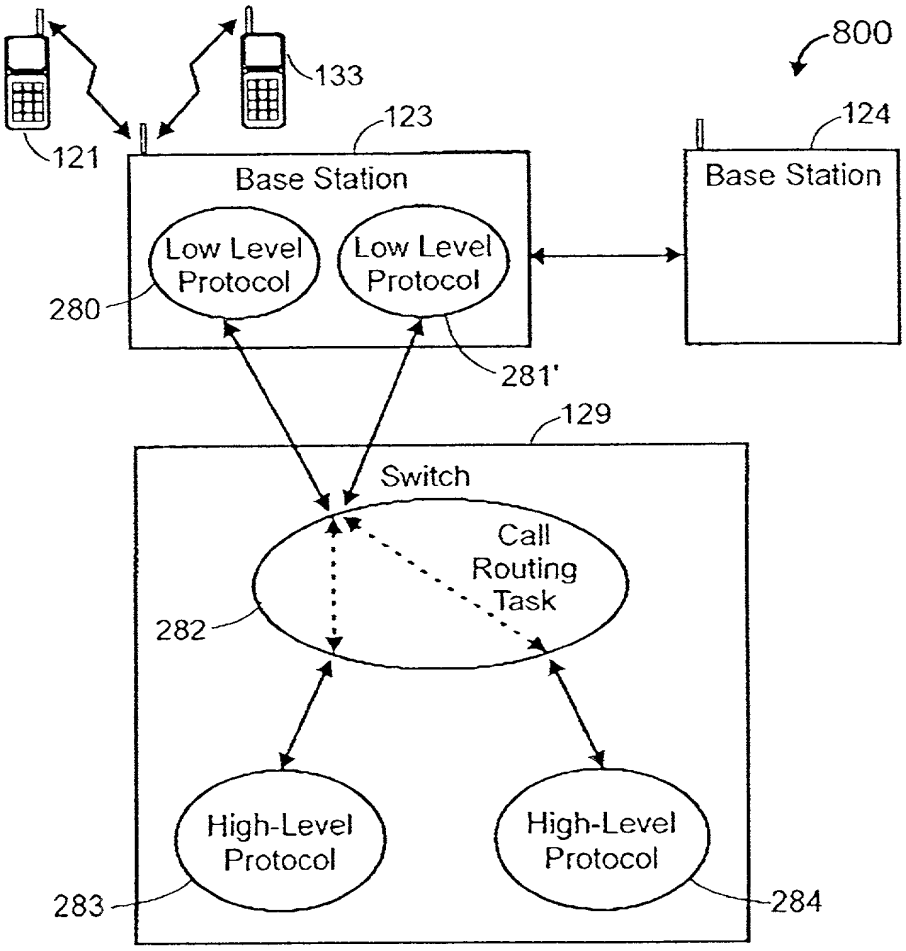

800
133
123
124
121
Base Station
Base Station
Low Level Protocol
Low Level Protocol
280
281'
129
Switch
Call Routing Task
282
High-Level Protocol
High-Level Protocol
283
284

Figure 9A

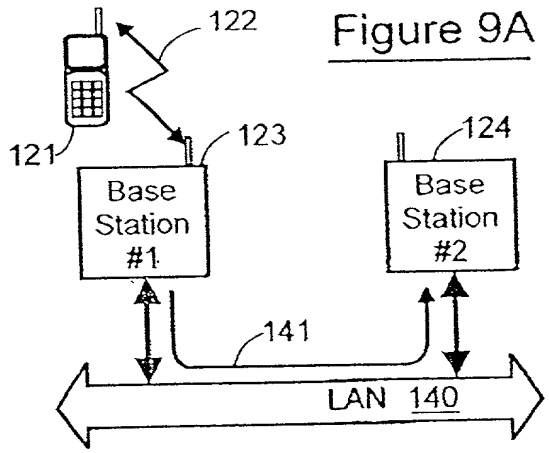



Figure 9B

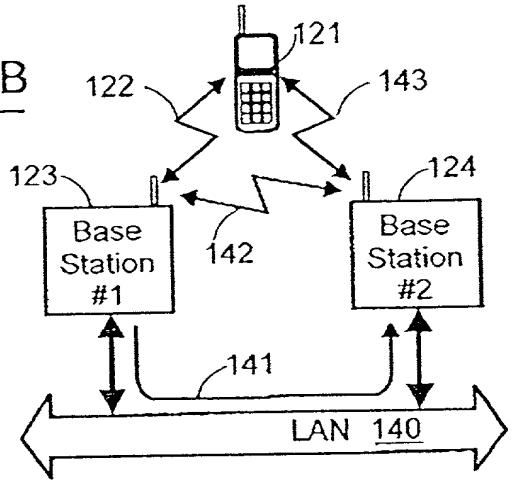



Figure 9C

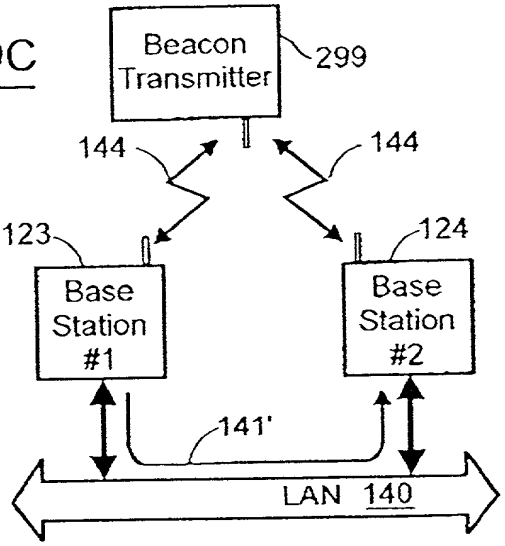


Figure 10

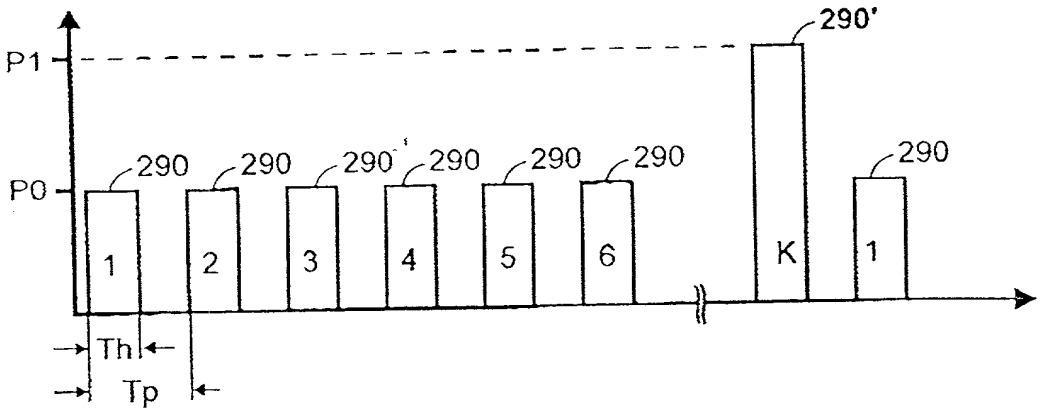
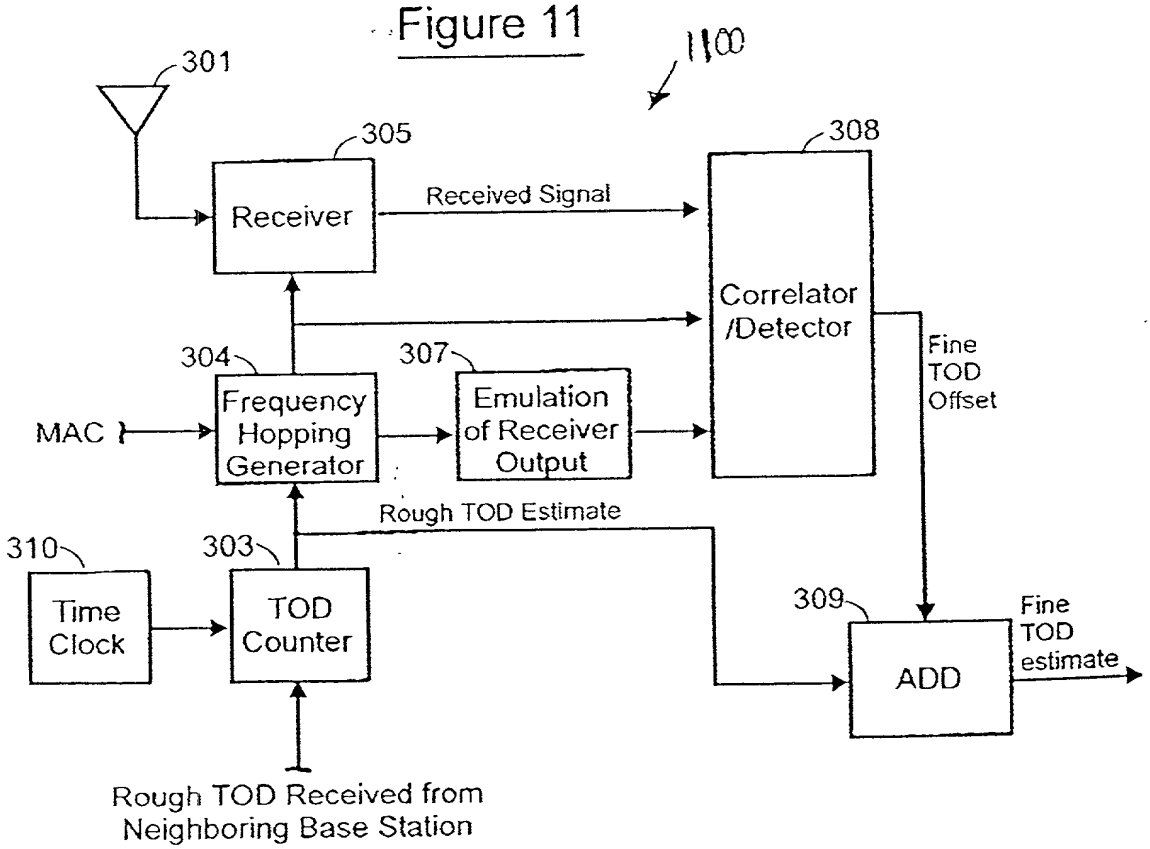



Figure 11




30/11/2000 10:25 KMF PHIENI FIENEK 7 0162400937253826224

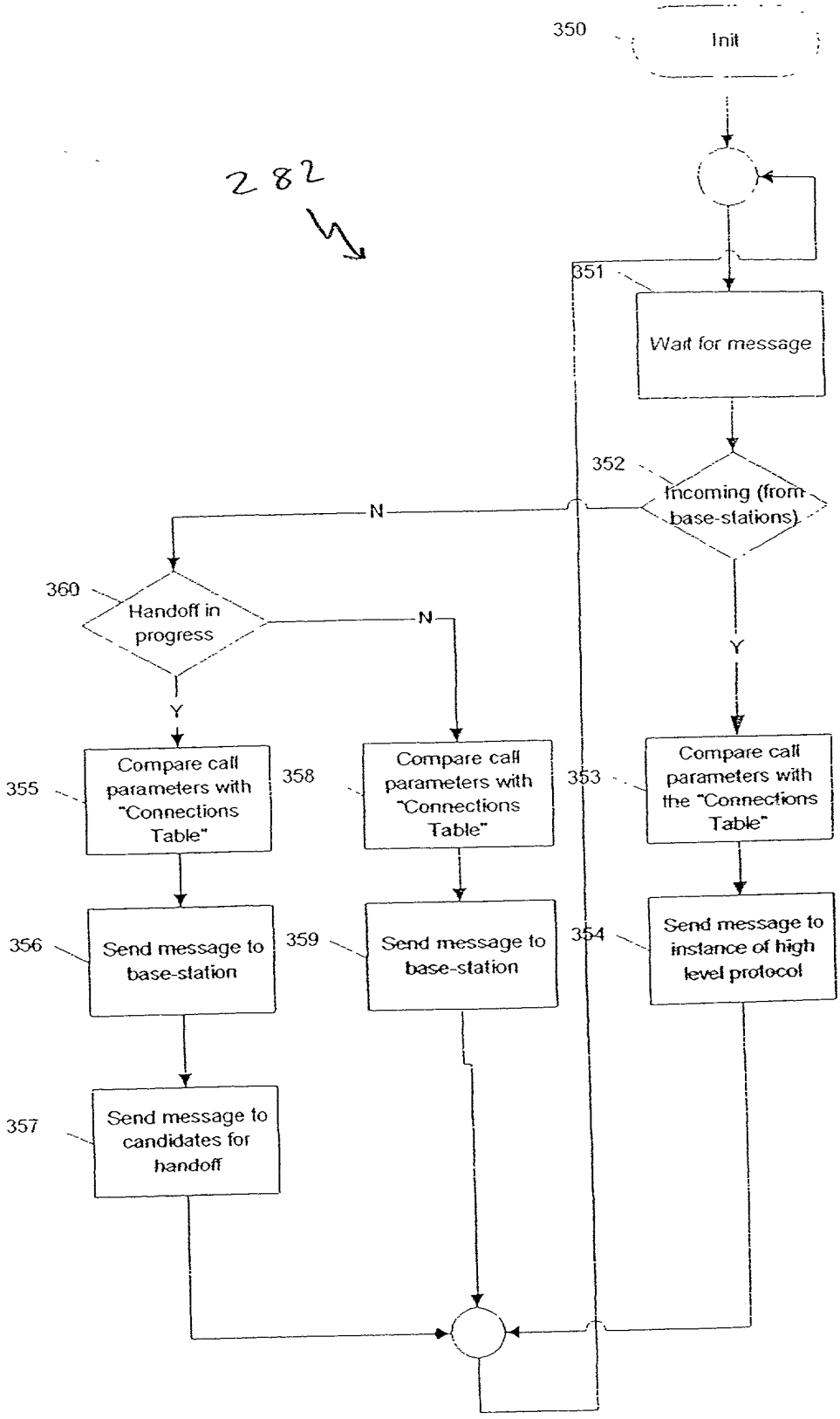

282
350
Init
351
Wait for message
352
Incoming (from base-stations)
N
Y
360
Handoff in progress
N
Y
355
Compare call parameters with "Connections Table"
358
Compare call parameters with "Connections Table"
353
Compare call parameters with the "Connections Table"
356
Send message to base-station
359
Send message to base-station
354
Send message to instance of high level protocol
357
Send message to candidates for handoff

Figure 12

Figure 13

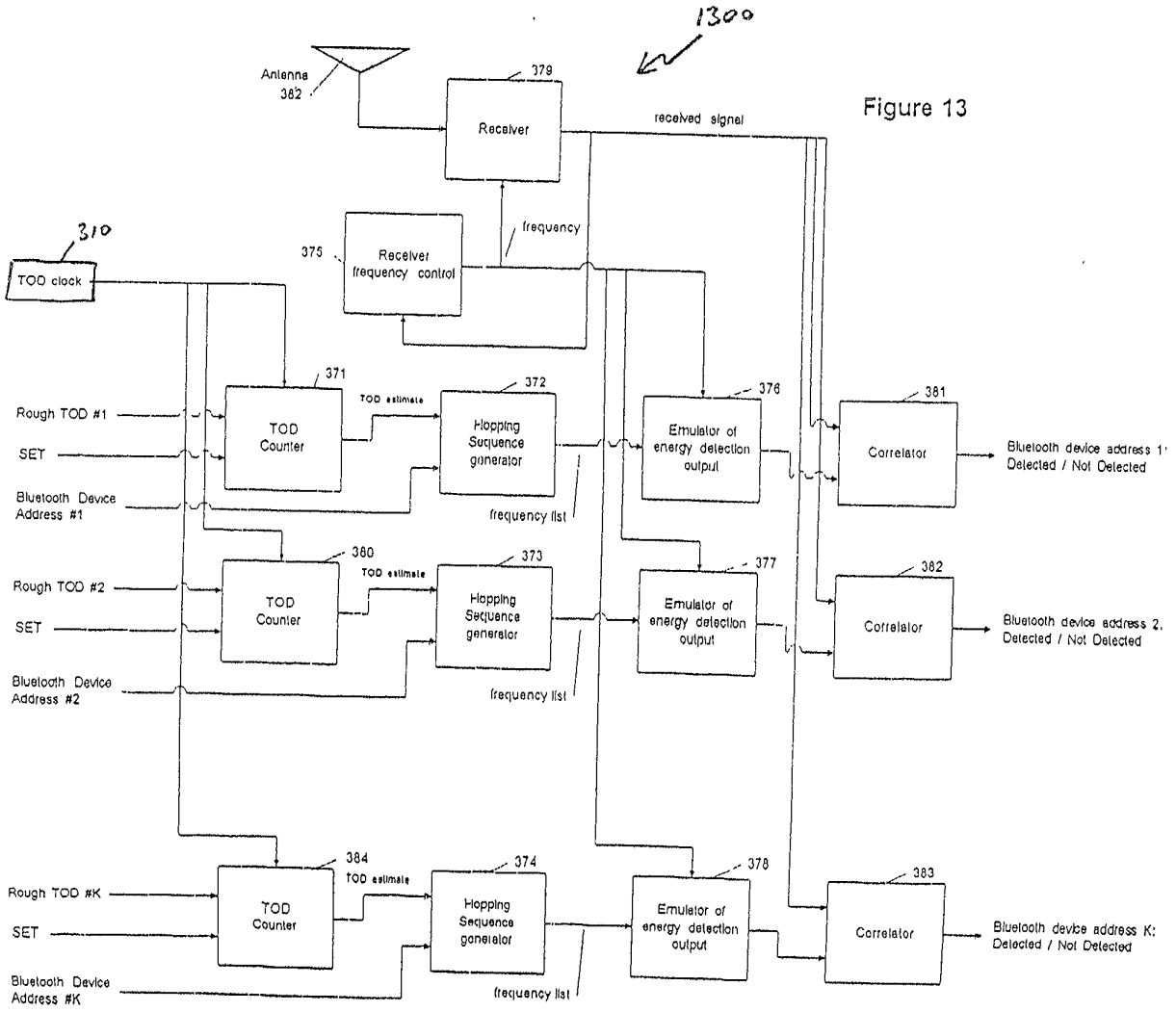

1300
Antenna
382
379
Receiver
received signal
310
TOD clock
375
Receiver
frequency control
frequency
371
TOD
Counter
TOD estimate
372
Hopping
Sequence
generator
376
Emulator of
energy detection
output
381
Correlator
Bluetooth device address 1
Detected / Not Detected
Rough TOD #1
SET
Bluetooth Device
Address #1
frequency list
380
TOD
Counter
TOD estimate
373
Hopping
Sequence
generator
377
Emulator of
energy detection
output
382
Correlator
Bluetooth device address 2
Detected / Not Detected
Rough TOD #2
SET
Bluetooth Device
Address #2
frequency list
384
TOD
Counter
TOD estimate
374
Hopping
Sequence
generator
378
Emulator of
energy detection
output
383
Correlator
Bluetooth device address K
Detected / Not Detected
Rough TOD #K
SET
Bluetooth Device
Address #K
frequency list

Figure 14A

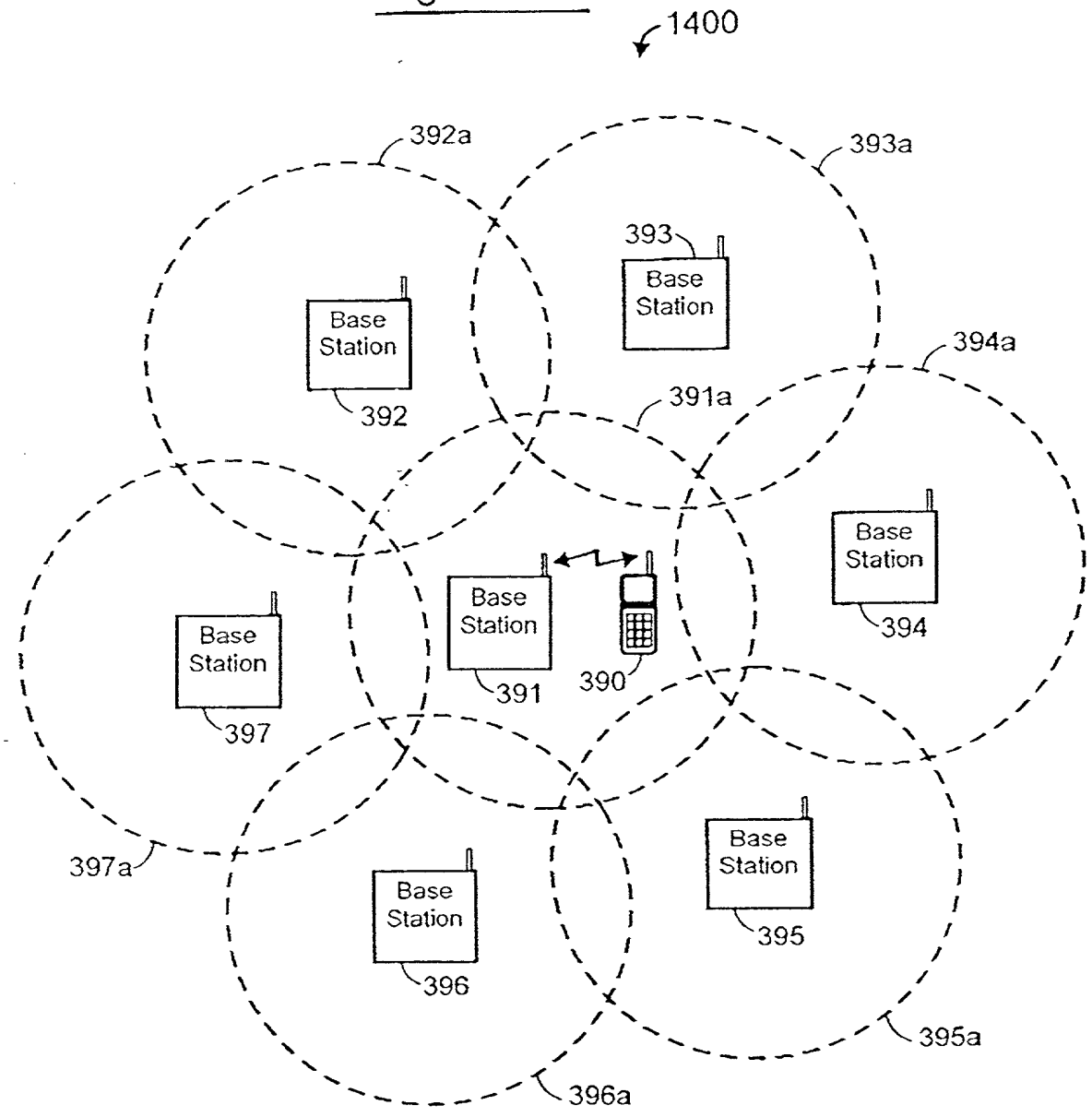

1400
392a
393a
393
Base Station
392
394a
391a
Base Station
Base Station
394
Base Station
391
390
Base Station
397
397a
Base Station
396
Base Station
395
395a
396a

Figure 14B

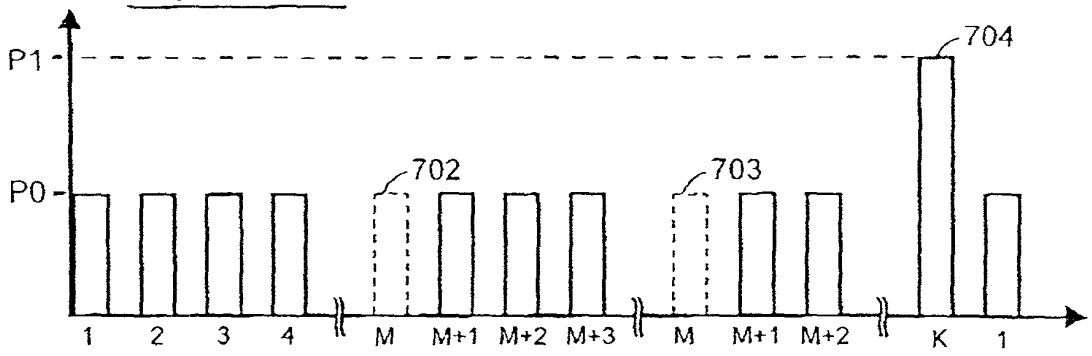



Figure 14C

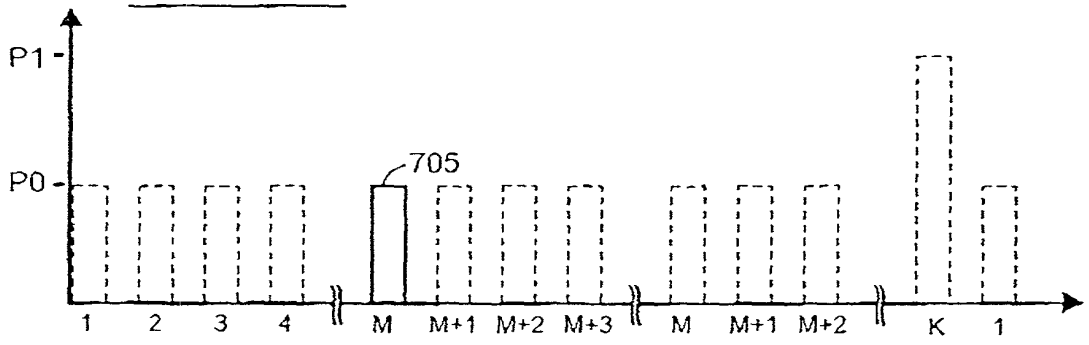



Figure 14D

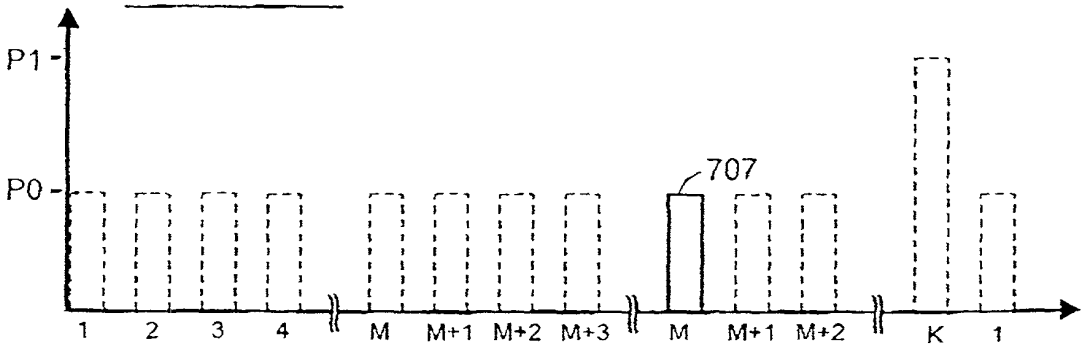


Figure 15A

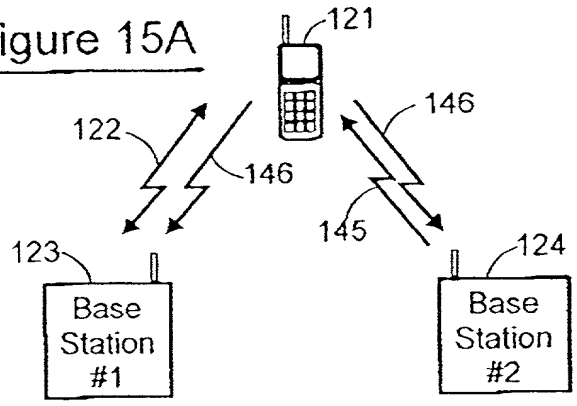
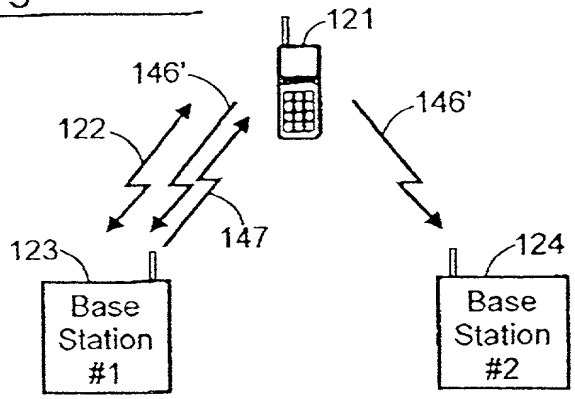



Figure 15B



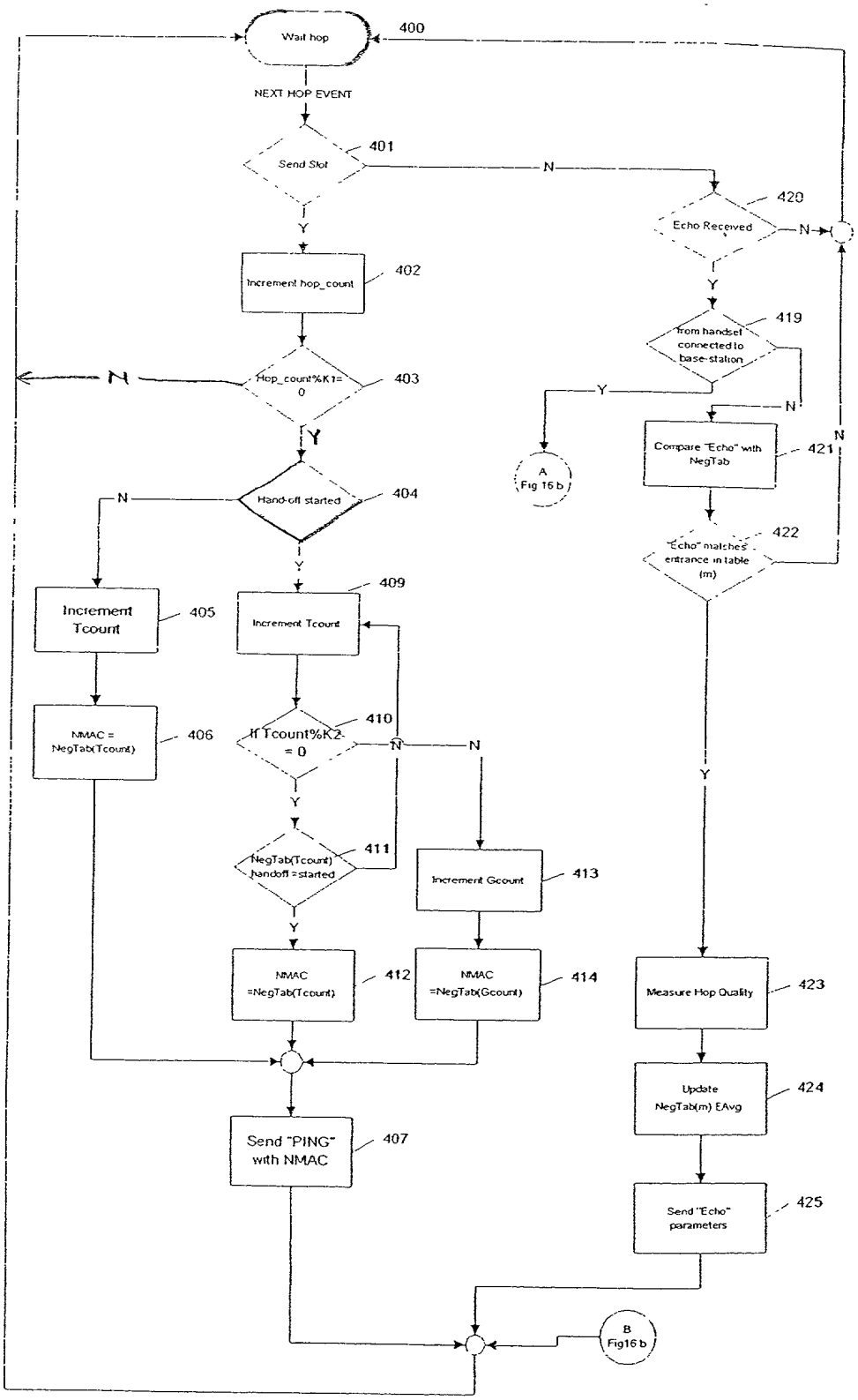

Wait hop
400
NEXT HOP EVENT
Send Slot
401
N
Y
Increment hop_count
402
Hop_count%K1= 0
403
N
Y
Hand-off started
404
N
Y
Increment Tcount
405
NMAC = NegTab(Tcount)
406
Send "PING" with NMAC
407
Increment Tcount
409
If Tcount%K2 = 0
410
N
Y
NegTab(Tcount) handoff =started
411
Y
NMAC =NegTab(Tcount)
412
Increment Gcount
413
NMAC =NegTab(Gcount)
414
Echo Received
420
N
Y
from handset connected to base-station
419
Y
N
A Fig 16 b
Compare "Echo" with NegTab
421
"Echo" matches entrance in table (m)
422
N
Y
Measure Hop Quality
423
Update NegTab(m) EAvg
424
Send "Echo" parameters
425
B Fig16 b

FIG. 16A

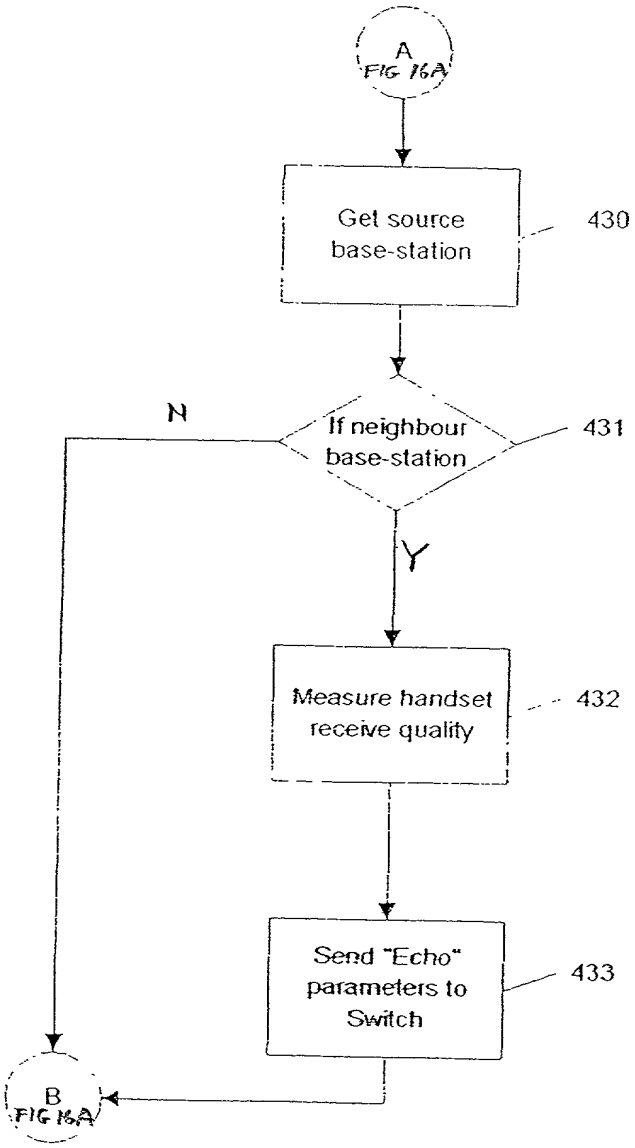

A
FIG 16A
Get source base-station
430
If neighbour base-station
431
N
Y
Measure handset receive quality
432
Send "Echo" parameters to Switch
433
B
FIG 16A

Figure 16.b

Figure 17A

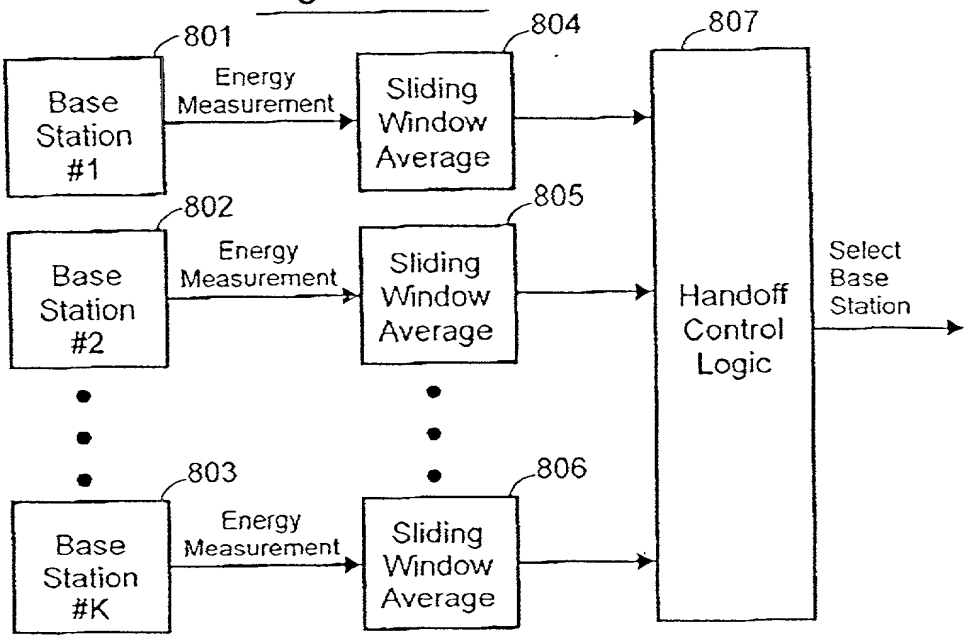



Figure 17B

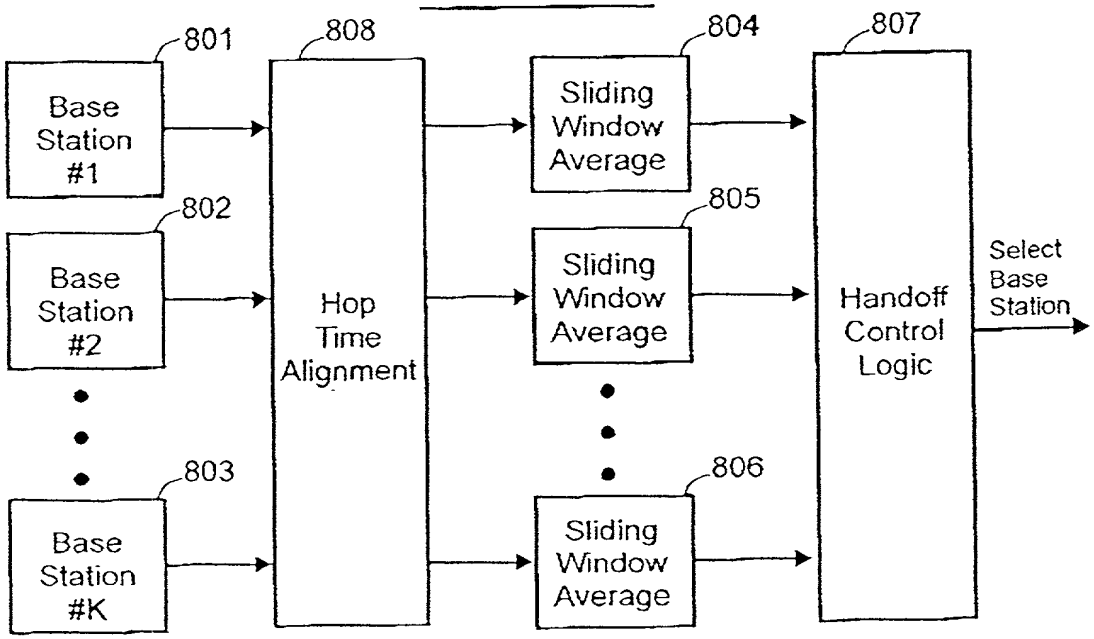


Figure 18

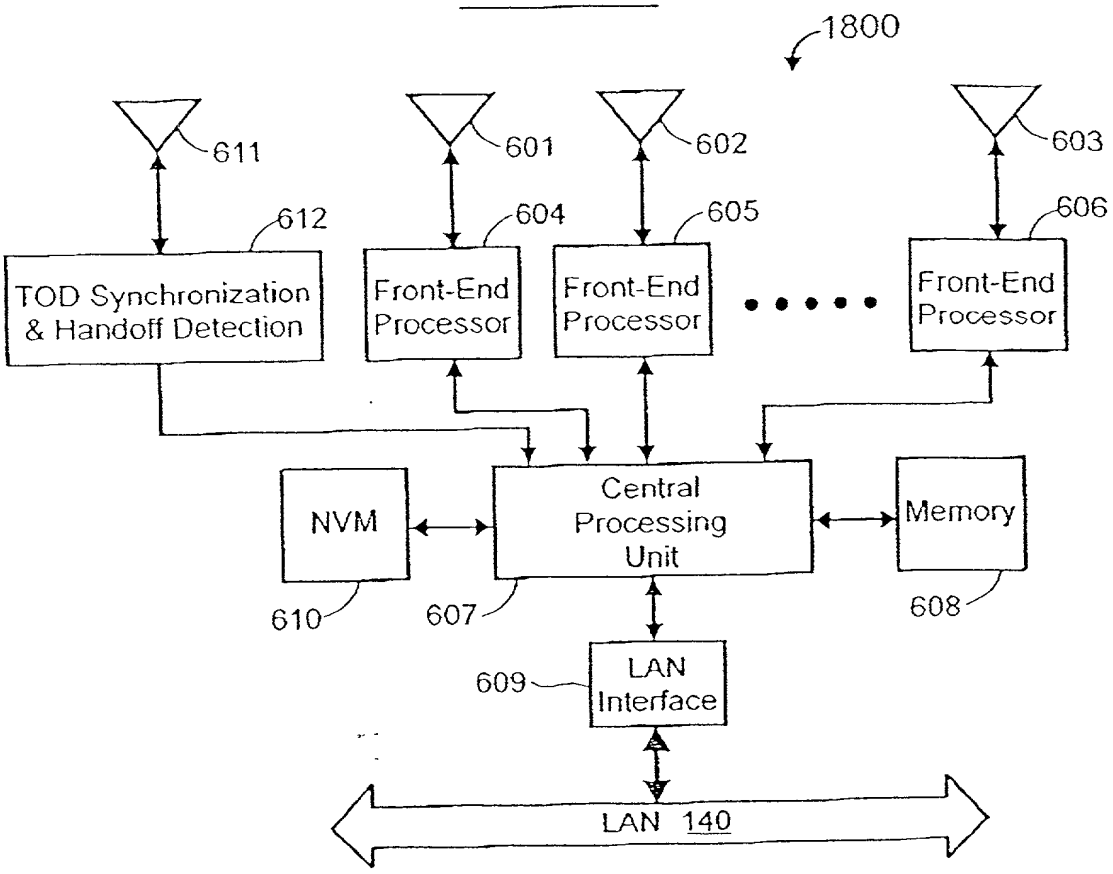
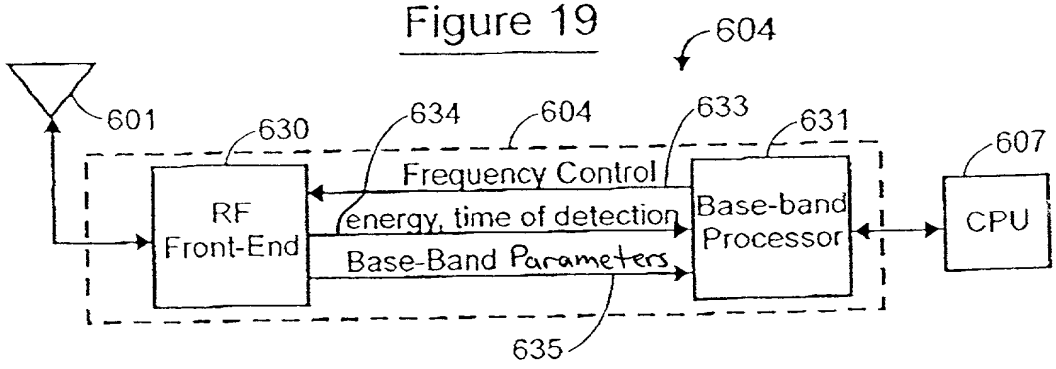



Figure 19



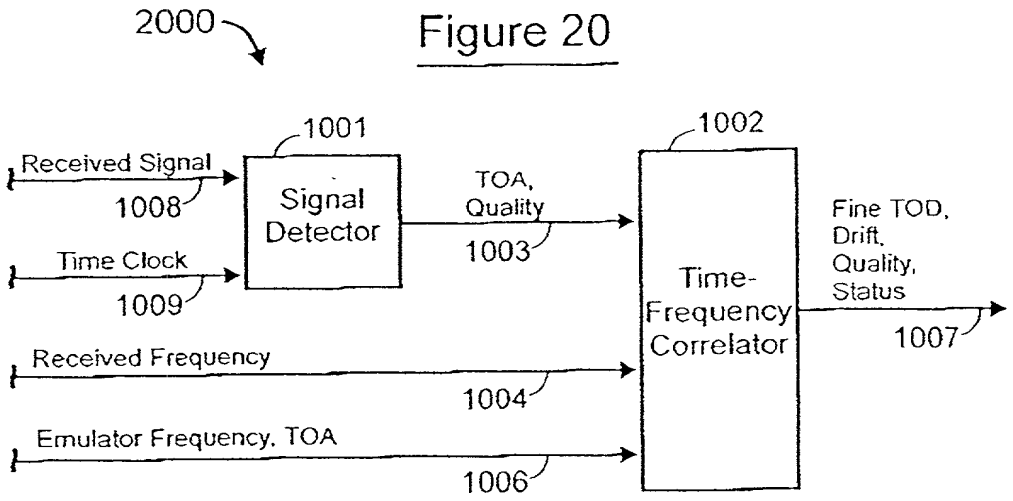



Figure 20

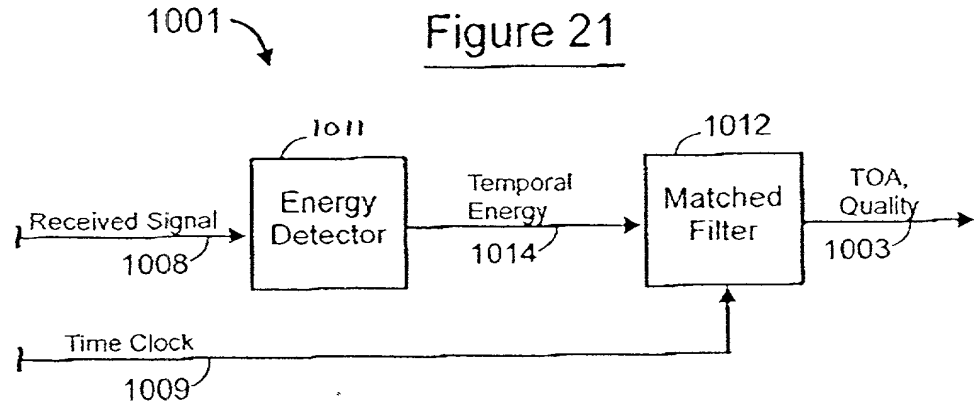



Figure 21

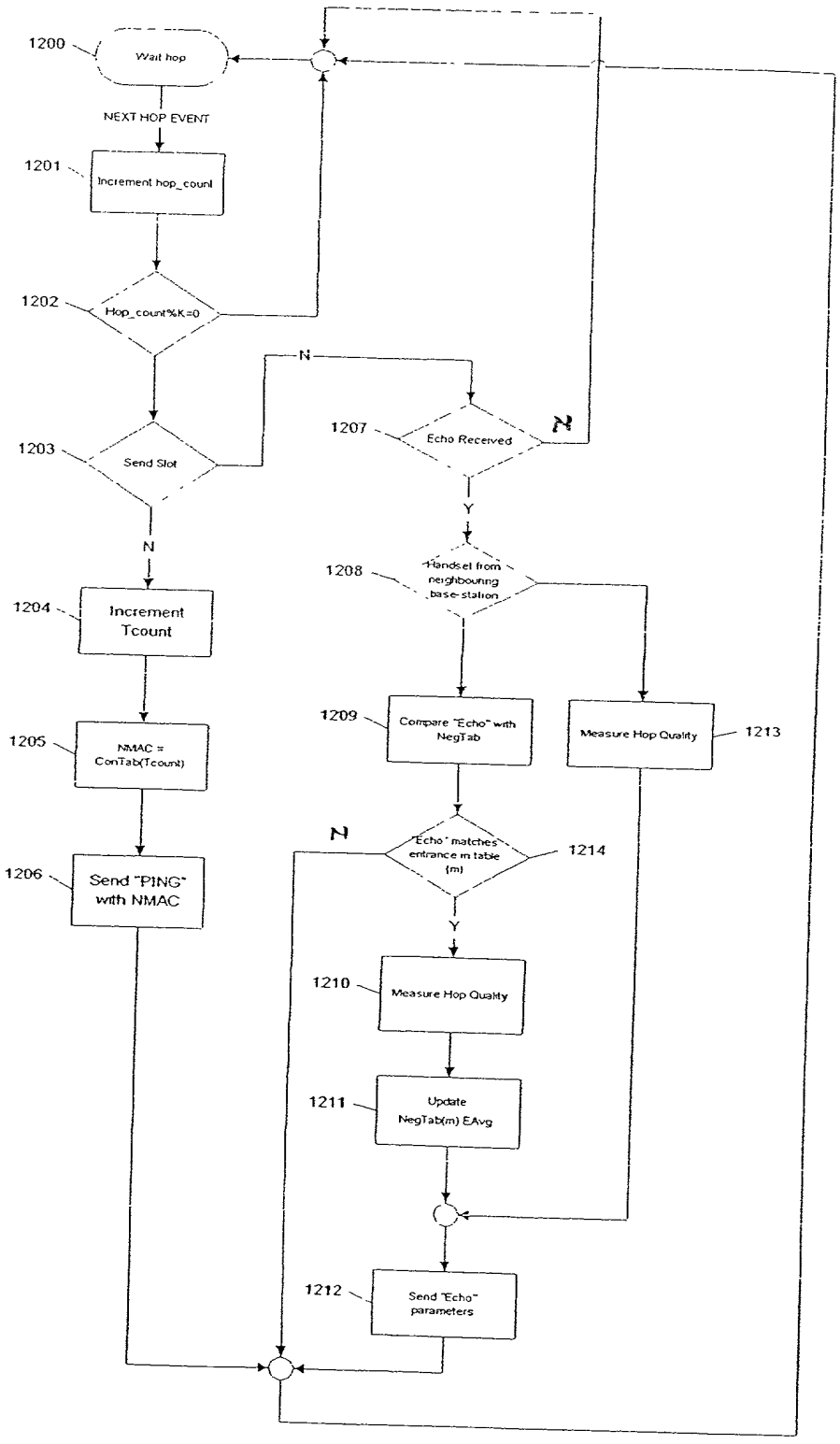
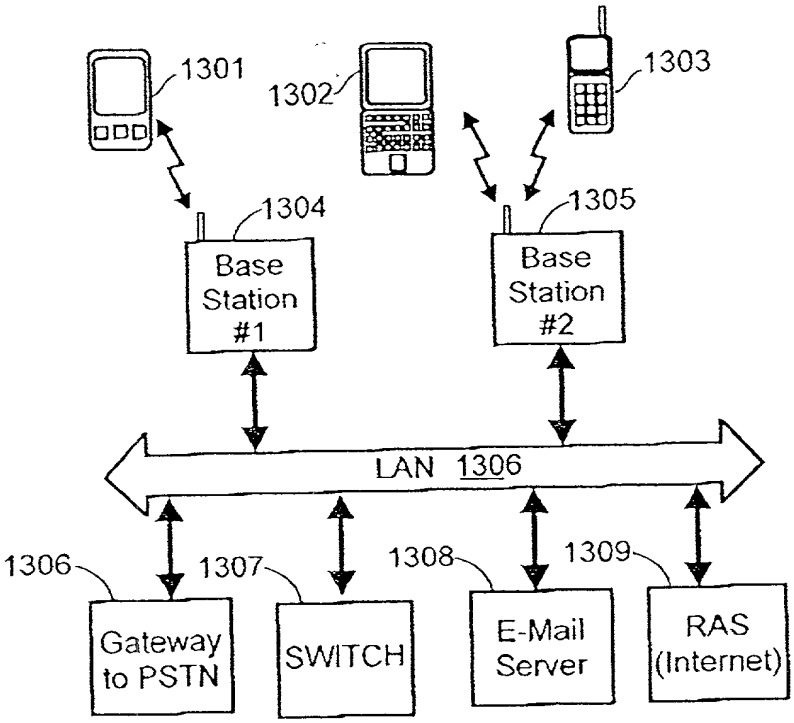

1200
Wait hop
NEXT HOP EVENT
1201
Increment hop_count
1202
Hop_count%K=0
N
1203
Send Slot
N
1204
Increment Tcount
1205
NMAC = ConTab(Tcount)
1206
Send "PING" with NMAC
1207
Echo Received
N
Y
1208
Handset from neighbouring base-station
1209
Compare "Echo" with NegTab
1213
Measure Hop Quality
N
1214
"Echo" matches entrance m table (m)
Y
1210
Measure Hop Quality
1211
Update NegTab(m) EAvg
1212
Send "Echo" parameters

FIG. 23

Figure 24


1301
1302
1303
1304
1305
Base Station #1
Base Station #2
LAN 1306
1306
1307
1308
1309
Gateway to PSTN
SWITCH
E-Mail Server
RAS (Internet)